

Appl. No. 10/759,505  
Amdt dated October 26, 2007  
Reply to Office Action of July 26, 2007  
Att. Docket No.: 1279-400CI

Filing date: January 16, 2004  
Applicant Name: Bazan et al.  
Examiner: Camie S. Thompson  
Art Unit: 1774

### AMENDMENTS TO THE CLAIMS

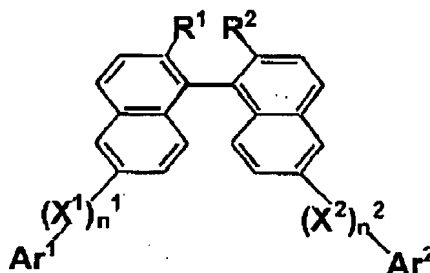
This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

Claim 1 (canceled)

Claims 2 and 3 (canceled)

Claim 4 (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula:



wherein each Ar<sup>1</sup> and Ar<sup>2</sup> is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X<sup>1</sup> and X<sup>2</sup> is independently a substituted or non-substituted aromatic hydrocarbon, each n<sup>1</sup> and n<sup>2</sup> is independently 0 or 1, each R<sup>1</sup> and R<sup>2</sup> is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein R<sup>1</sup> and R<sup>2</sup> can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's ~~binaphthyl~~ binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by (X<sup>1</sup>)<sub>n<sup>1</sup></sub>-Ar<sup>1</sup>, (X<sup>2</sup>)<sub>n<sup>2</sup></sub>-Ar<sup>2</sup>, R<sup>1</sup> and R<sup>2</sup>.

Claim 5 (currently amended) The ~~binaphthyl~~ binaphthyl compound of claim 4 wherein each R<sup>1</sup> and R<sup>2</sup> is an alkoxy group.

Claims 6 - 11 (canceled)

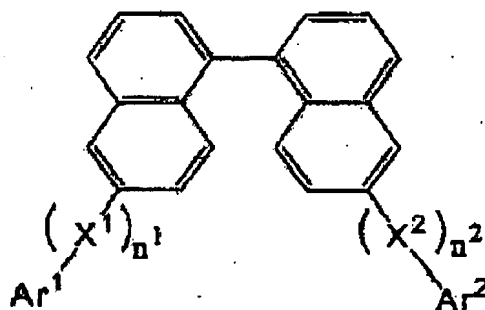
Claim 12 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a layer between the emissive layer and the cathode comprising the ~~binaphthyl~~ binaphthyl compound of claim 4.

RECEIVED  
CENTRAL FAX CENTER  
OCT 26 2007

Appl. No. 10/759,505  
 Amdt dated October 26, 2007  
 Reply to Office Action of July 26, 2007  
 Att. Docket No.: 1279-400C1

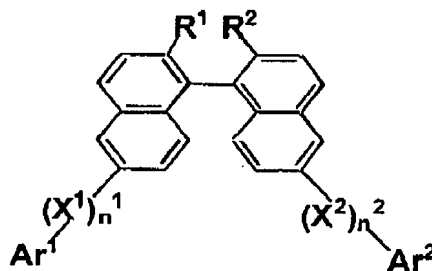
Filing date: January 16, 2004  
 Applicant Name: Bazan et al.  
 Examiner: Camie S. Thompson  
 Art Unit: 1774

Claim 13 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising a ~~binaphtyl~~ binaphthyl compound of the formula:



wherein each Ar<sup>1</sup> and Ar<sup>2</sup> is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X<sup>1</sup> and X<sup>2</sup> is independently a substituted or non-substituted aromatic hydrocarbon, each n<sup>1</sup> and n<sup>2</sup> is independently 0 or 1, and wherein the compound's ~~binaphtyl~~ binaphthyl framework can be independently substituted at any position except those occupied by (X<sup>1</sup>)<sub>n<sup>1</sup></sub> Ar<sup>1</sup> and (X<sup>2</sup>)<sub>n<sup>2</sup></sub> Ar<sup>2</sup>.

Claim 14 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising a ~~binaphtyl~~ binaphthyl compound of the formula:



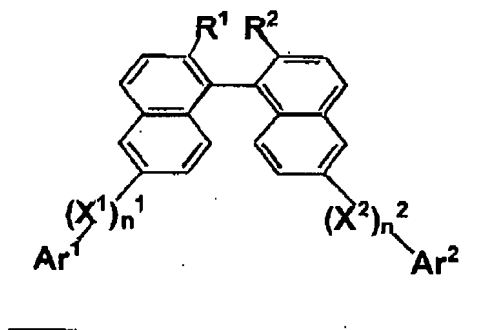
wherein each Ar<sup>1</sup> and Ar<sup>2</sup> is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X<sup>1</sup> and X<sup>2</sup> is independently a substituted or non-substituted aromatic hydrocarbon, each n<sup>1</sup> and n<sup>2</sup> is

Appl. No. 10/759,505  
 Amdt dated October 26, 2007  
 Reply to Office Action of July 26, 2007  
 Art. Docket No.: 1279-400C1

Filing date: January 16, 2004  
 Applicant Name: Bazan et al.  
 Examiner: Camie S. Thompson  
 Art Unit: 1774

independently 0 or 1, each  $R^1$  and  $R^2$  is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein  $R^1$  and  $R^2$  can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by  $(X^1)_{n^1} Ar^1$ ,  $(X^2)_{n^2} Ar^2$ ,  $R^1$  and  $R^2$ .

Claim 15 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising a binaphthyl compound of the formula:

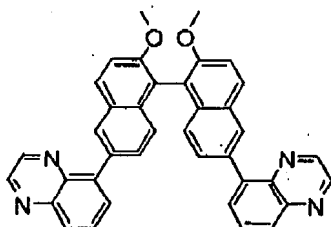


wherein each  $Ar^1$  and  $Ar^2$  is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each  $X^1$  and  $X^2$  is independently a substituted or non-substituted aromatic hydrocarbon, each  $n^1$  and  $n^2$  is independently 0 or 1, each  $R^1$  and  $R^2$  is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein  $R^1$  and  $R^2$  can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by  $(X^1)_{n^1} Ar^1$ ,  $(X^2)_{n^2} Ar^2$ ,  $R^1$  and  $R^2$ ;

The organic light emitting device of claim 14 in which the hole-blocking layer between the emissive layer and the cathode comprises a compound of the formula:

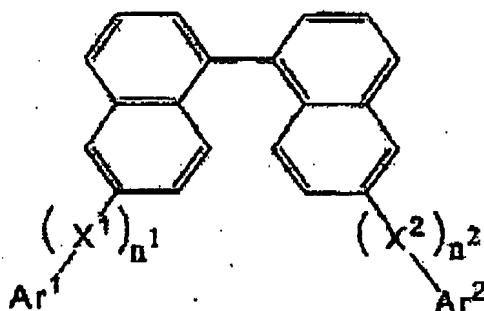
Appl. No. 10/759,505  
 Amdt dated October 26, 2007  
 Reply to Office Action of July 26, 2007  
 Att. Docket No.: 1279-400C1

Filing date: January 16, 2004  
 Applicant Name: Bazan et al.  
 Examiner: Camie S. Thompson  
 Art Unit: 1774



Claims 16 and 17 (canceled)

Claim 18 (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula:

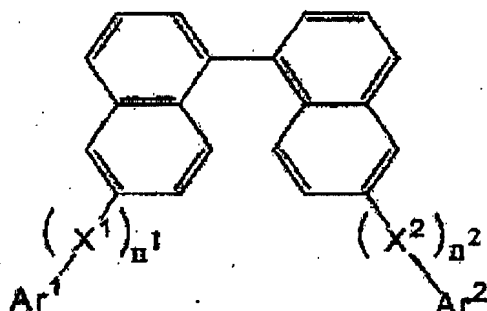


wherein each  $Ar^1$  and  $Ar^2$  is independently a three, four or five-condensed aromatic ring, each  $X^1$  and  $X^2$  is independently a substituted or non-substituted aromatic hydrocarbon, each  $n^1$  and  $n^2$  is independently 0 or 1, and wherein the compound's ~~binaphthyl~~ binaphthyl framework can be independently substituted at any position except those occupied by  $(X^1)_{n^1} Ar^1$  and  $(X^2)_{n^2} Ar^2$ .

Claim 19 (currently amended) An organic light emitting device having an anode and cathode and an emissive layer between the anode and cathode, the emissive layer comprising:  
 a ~~binaphthyl~~ binaphthyl compound of the formula:

Appl. No. 10/759,505  
 Amdt dated October 26, 2007  
 Reply to Office Action of July 26, 2007  
 Att. Docket No.: 1279-400C1

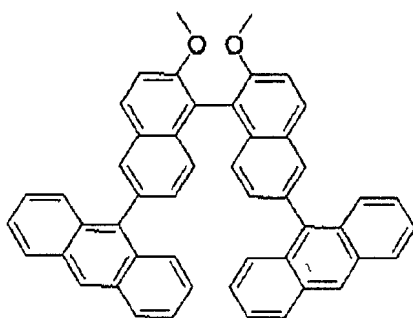
Filing date: January 16, 2004  
 Applicant Name: Bazan et al.  
 Examiner: Camie S. Thompson  
 Art Unit: 1774



wherein each Ar<sup>1</sup> and Ar<sup>2</sup> is independently a three, four or five-condensed aromatic ring, each X<sup>1</sup> and X<sup>2</sup> is independently a substituted or non-substituted aromatic hydrocarbon, each n<sup>1</sup> and n<sup>2</sup> is independently 0 or 1, and wherein the compound's ~~binaphthyl~~ binaphthyl framework can be independently substituted at any position except those occupied by (X<sup>1</sup>)<sub>n<sup>1</sup></sub>Ar<sup>1</sup> and (X<sup>2</sup>)<sub>n<sup>2</sup></sub>Ar<sup>2</sup>;  
 and

fac-tris(2-phenylpyridine) iridium(III) as a phosphorescent dye dopant.

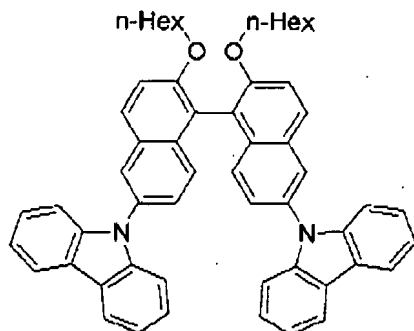
Claim 20. (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula



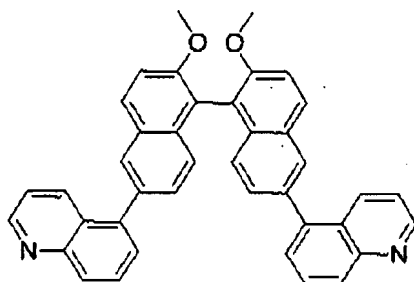
Claim 21. (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula

Appl. No. 10/759,505  
Amdt dated October 26, 2007  
Reply to Office Action of July 26, 2007  
Att. Docket No.: 1279-400C1

Filing date: January 16, 2004  
Applicant Name: Bazan et al.  
Examiner: Camie S. Thompson  
Art Unit: 1774



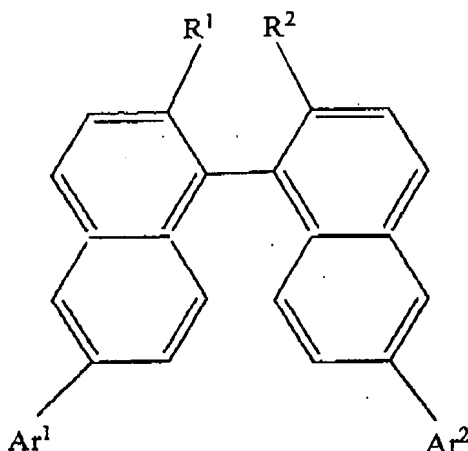
Claim 22. (previously presented) ) The organic light emitting device of claim 14 in which the hole-blocking layer between the emissive layer and the cathode comprises a compound of the formula:



Appl. No. 10/759,505  
 Amdt dated October 26, 2007  
 Reply to Office Action of July 26, 2007  
 Att. Docket No.: 1279-400C1

Filing date: January 16, 2004  
 Applicant Name: Bazan et al.  
 Examiner: Camie S. Thompson  
 Art Unit: 1774

Claim 23 (new) A binaphthyl compound of the formula:



wherein each Ar<sup>1</sup> and Ar<sup>2</sup> is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X<sup>1</sup> and X<sup>2</sup> is independently a substituted or non-substituted aromatic hydrocarbon, each n<sup>1</sup> and n<sup>2</sup> is independently 0 or 1, each R<sup>1</sup> and R<sup>2</sup> is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein R<sup>1</sup> and R<sup>2</sup> can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by (X<sup>1</sup>)<sup>n<sup>1</sup></sup> Ar<sup>1</sup>, (X<sup>2</sup>)<sup>n<sup>2</sup></sup> Ar<sup>2</sup>, R<sup>1</sup> and R<sup>2</sup>.